

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Cancel claims 1-19.

20. (New) A chromatography column assembly, of the type comprising at least one capillary column, at least one tubular structure which envelops said capillary column and is coaxial with it, means to directly heat said column, means to detect the temperature of said column and one or more electrically insulating covering elements, wherein said tubular structure comprises a plurality of tubular meshes each formed of a plurality of filaments woven together, wherein said means to heat said column and/or said means to detect the temperature of said column comprise at least one electrically conductive tubular mesh formed at least in part of filaments in electrically conductive material and at least in part of filaments in electrically insulating material woven together.

21. (New) A chromatography column assembly as claimed in claim 20, wherein at least one of said one or more electrically insulating covering elements comprise at least one tubular mesh formed of filaments in electrically insulating material woven together.

22. (New) A chromatography column assembly as claimed in claim 20, wherein the innermost mesh of said plurality of coaxial tubular meshes has an inner surface placed in close contact with the outer surface of said column.

23. (New) A chromatography column assembly as claimed in claim 20, wherein at least one of said electrically insulating covering elements constitutes the outermost tubular mesh of said plurality of coaxial tubular meshes.

24. (New) A chromatography column assembly as claimed in claim 20, wherein at least one of said electrically insulating covering elements constitutes the innermost tubular mesh of said plurality of coaxial tubular meshes.

25. (New) A chromatography column assembly as claimed in claim 20, wherein at least one of said electrically insulating covering elements is interposed between at least two coaxial tubular meshes of said plurality of coaxial tubular meshes.

26. (New) A chromatography column assembly as claimed in claim 20, wherein said capillary column is produced in fused silica or another suitable electrically insulating material.

27. (New) A chromatography column assembly as claimed in claim 20, wherein said capillary column is produced in an electrically conductive material, such as a metal or the like.

28. (New) A chromatography column assembly as claimed in claim 27, wherein said means to heat said column and/or said means to detect the temperature of said column are constituted by said capillary column in electrically conductive material.

29. (New) A chromatography column assembly as claimed in claim 20, wherein said means to heat said column comprise at least one first of said electrically conductive coaxial tubular meshes and said means to detect the temperature of said column comprise at least one

second of said electrically conductive coaxial tubular meshes, at least one covering element in electrically insulating material being interposed between said first and said second tubular mesh.

30. (New) A method to produce a chromatography column assembly of the direct heating type, wherein said chromatography column assembly comprises at least one capillary column, one or more electrical conductors to directly heat said column and one or more electrical conductors to detect the temperature of said column, comprising:

establishing a predetermined length L for said capillary column; and

for said predetermined length L of said column, determining at least a resistance R1 of said one or more electrical conductors to heat said column by weaving together a pre-established number of filaments in electrically conductive material to form one or more electrically conductive tubular meshes coaxial with said column.

31. (New) A method as claimed in claim 30, wherein one or more meshes of said one or more electrical conductors comprise filaments in electrically insulating material woven with said filaments in electrically conductive material.

32. (New) A method as claimed in claim 30, wherein said one or more electrical conductors to heat said column coincide with said one or more electrical conductors to detect the temperature of said column.

33. (New) A method as claimed in claim 30, wherein said electrically conductive filaments are produced with the same material.

34. (New) A method as claimed in claim 30, wherein said electrically conductive filaments that form at least one of said one or more meshes all have the same diameter.

35. (New) A method as claimed in claim 30, wherein said electrically conductive filaments that form said one or more meshes all have the same diameter.

36. (New) A method to produce a chromatography column assembly of the type with direct heating, wherein said chromatography column assembly comprises at least one capillary column, one or more electrical conductors to directly heat said column and one or more electrical conductors to detect the temperature of said column, comprising:

establishing a predetermined length L for said capillary column; and

for said predetermined length L of said column, determining at least a resistance R2 of said one or more electrical conductors to detect the temperature of said column by weaving together a pre-established number of filaments in electrically conductive material to form one or more electrically conductive tubular meshes coaxial with said column.

37. (New) A method as claimed in claim 36, wherein one or more meshes of said one or more electrical conductors comprise filaments in electrically insulating material woven with said filaments in electrically conductive material.

38. (New) A method as claimed in claim 36, wherein said one or more electrical conductors to heat said column coincide with said one or more electrical conductors to detect the temperature of said column.

39. (New) A method as claimed in claim 36, wherein said electrically conductive filaments are produced with the same material.

40. (New) A method as claimed in claim 36, wherein said electrically conductive filaments that form at least one of said one or more meshes all have the same diameter.

41. (New) A method as claimed in claim 36, wherein said electrically conductive filaments that form said one or more meshes all have the same diameter.